Overview of the Research Design

The research design developed for this study was influenced by existing research on dietary recall and cognitive abilities of respondents in three main areas:

- the ability of parents to recall dietary consumption for their children,
- parents' desires to over or under-report consumption of particular food items,
- and the types of cognitive cues that may be helpful in promoting better accuracy of dietary recall.

The ability of parents to recall dietary consumption for their children. Despite the variety of methods available to collect dietary intake information, the accuracy of dietary intake data provided by adults remains a problem, both in cases where they are asked to respond for themselves as well as for young children. Problems in accurately recalling what was consumed range from memory lapses, to inability to judge portion sizes, to intentional misreporting to lower the consumption of less socially acceptable foods. Adults frequently do not recall what they ate, or they misreport how much of it they consumed.[1] These recall difficulties are also evident when asking parents to report on the eating habits of young children. Recent studies on the recall ability of parents when reporting on the food consumption of their children age 6 or under indicate that both mothers and fathers are reasonably accurate in recalling their child's food intake, but only within the past 24 hours. However, over the course of several meals, parents' recall provides a somewhat less accurate measure of actual foods eaten, portion sizes, and nutrient levels consumed. [2]

Parents' desires to over or under-report consumption of particular food items. Research on parents' ability to serve as proxies for children in reporting dietary habits suggests that parents may also feel more pressure to only report that their child has consumed socially acceptable foods, even if their eating patterns in reality do not reflect the ideal healthful diet. In this situation, parents over-report the consumption of foods perceived to be healthier and under-report those perceived to be less healthy. Studies have demonstrated that under-reported intake may not affect all foods equally but may involve only certain types of foods, such as snacks.[3] This possibility was also of particular relevance in this study, as it relates directly to parents' use of the response options in the questions, as well as questionnaire item wording that may unintentionally make parents feel the need to inflate the number of times their child has consumed more healthful foods and/or deflate the number of times their children consumed less healthful foods.

The types of cognitive cues that may be helpful in promoting better accuracy of dietary recall.

---

[1] Byers, T., J. Marshall, E. Anthony, R. Fiedler, and M. Zielezny. 1987. The reliability of dietary history from the distant past. *American Journal of Epidemiology*, 125, 999–1011.

[2] Basch, C. E., S. Shea, R. Arliss, I. R. Contento, J. Rips, B. Gutin, et al. 1990. Validation of mothers' reports of dietary intake by four to seven year-old children. *American Journal of Public Health*, 80, 1314–1317.

[3] Poppitt, S. D., D. Swann, A. E. Black, and A. M. Prentice. 1998. Assessment of selective under-reporting of food intake by both obese and non-obese females in a metabolic facility. *International Journal of Obesity*, 22, 303–311.

The accompanying discussion that parents may engage in when reporting their child's consumption might provide insight into the types of contextual cues that become important for prompting better recall of eating habits and more complete responses. Recent research in improving the accuracy of recall of dietary intake advocates a new sensitivity to ways in which conversations about eating behaviors can better communicate the types of foods consumed, as well as the patterns of consumption. Asking respondents to describe everyday food consumption, noting cues for difficult areas of reporting, leads to a more accurate recall of food intake.[4] It may be the case that these cues either take the form of certain words or concepts that could be incorporated into revised questions or serve as a cross-check of the information parents provide on their child's eating behavior.

The Study Design

To address the research questions, this study included two waves of data collection with mothers of kindergarten and /or first grade children. Both waves included a set of cognitive interviews with nine respondents and one focus group with nine participants. This approach allowed for the development of iterative findings as alternative questions and response options were analyzed. The first wave of the study served as an exploratory wave, broadly investigating how mothers of kindergarten and 1st grade students interpreted and responded to the questions. The second wave served as a more in-depth testing ground for alternatives emerging from the Wave 1 findings. On the basis of the findings of Wave 1, a revised set of questions was developed for testing in Wave 2 of the study. The revised questions incorporated changes that dramatically impact mother's ability to answer the questions and response options as related to the initial findings. In Wave 2, this revised set of questions was tested. The recommendations for the eating habits questions were then developed from the review of the Wave 2 findings, along with relevant comparisons to the Wave 1 outcomes.

Number Of Study Participants

Each wave of the study consisted of a series of in-depth cognitive interviews (with a total of 9 participants) followed by one focus group. Table 1 summarizes the composition of respondents and data collection activities for both waves of the study.

Table 1. Summary of Data Collection Approach

Data Collection Activity	Study Wave	
	Wave 1: Exploratory Number of respondents	**Wave 2: Modified Questions** Number of respondents
In-depth cognitive interviews	9	9
Focus group	9	9
Total number of respondents (36 mothers)	18	18

[4] Tapsell, L. C., V. Brenninger, and J. Barnard. 2000. Applying conversation analysis to foster accurate reporting in the diet history interview. *Journal of the American Dietetic Association*, 100(7), 818–824.